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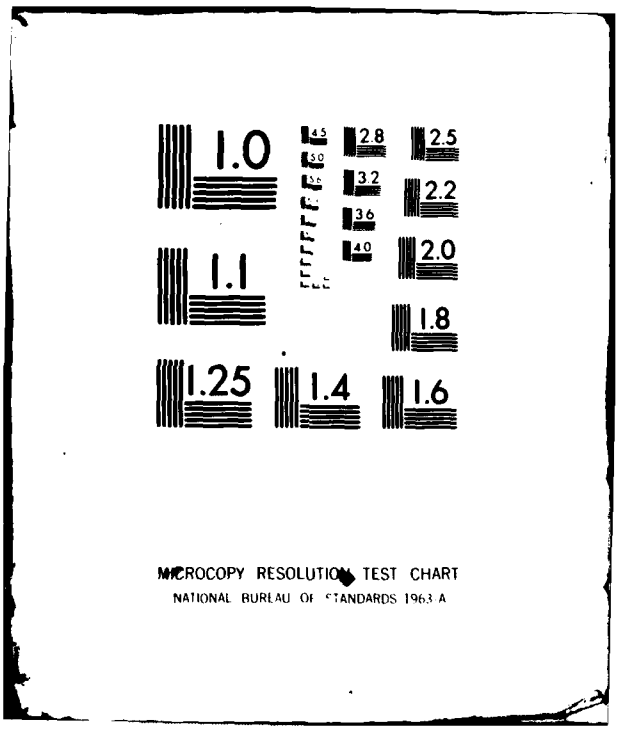
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Cell membranes have a vital and indispensable function for life processes. Membranes endow various cells with their specific function. Therefore, membranes contain highly specific molecules that can function as: carriers, pumps, channels and receptors. These various transport and recognition systems regulate the cell function. Thus membranes, for example, are the site of two most important energy conversion systems in biology - photosynthesis and oxidative-phosphorylation. → next page

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Photosynthesis represents light conversion into chemical bond energy and oxidative-phosphorylation represents nutrient energy conversion into chemical energy. Thus in the past decades investigators have been pursuing to understand the nature of membrane carriers, channels, gates and receptors.

The overall objective of this conference was to assist in defining and search for new ways into the problems associated with the elucidation of the molecular basis of passive and active ion translocation across cellular membranes. The conference helped focus the attention into the importance of isolating transport protein carriers and channels from membranous systems. Furthermore, the conference brought to the attention of the scientific audience at the meeting and at large (through the publication of the proceedings) the numerous reconstitution procedures recently developed to study more accurately functional aspects of individual proteins.

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FINAL REPORT

Interdisciplinary Conference on Carriers and Channels in Biological Systems

by

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June 24, 1980

INTERDISCIPLINARY CONFERENCE ON CARRIERS AND CHANNELS IN BIOLOGICAL SYSTEMS

FINAL REPORT

The Conference brought together an international panel of experts on the isolation, characterization and the elucidation of molecular mechanism of carriers and channels. There were new and exciting results presented. These included new discoveries as well as new technological advances. The highlights of the talks and the new data presented were: the isolation and cloning of lactose carrier by Dr. Overath of West Germany; the functional and binding sites arrangement of the red blood cell anion channel by Dr. Rothstein of Canada; the function of pores by bacterial cell wall porin by Dr. Läuger of West Germany; the new synthesis of ATP by reconstituted H-ATPase by either hydrogen gradient or membrane potential by Dr. Kagawa of Japan; new illuminating data on the role of insulin on sugar carriers by Dr. Czech of the U.S.A.; and the isolation of a low molecular weight calcium carrier by Dr. Shamoo of the U.S.A. The 22 posters presented were one of the best parts of the meeting since there was ample time for discussions. Highlights of the posters were: a new and very promising new technique for forming artificial bilayers for the purpose of incorporating transport proteins by Dr. Schindler of Switzerland; and the first evidence that Ca+Mg-ATPase functions as monomer by Dr. Dean of the U.S.A. The introduction of the poster session added a vibrant youth to the meeting and I was very pleased with the results, especially at no additional cost to the organizers.

The number of participants was over 200 and thus everyone had a chance to interact with each other on a somewhat personal basis.

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